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Cooperative
**ECONOMIC INSECT
REPORT**



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COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

GREENBUG populations on forage crops in Belle Glade, Florida area heavily attacked by parasites. (Page 48)

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WEATHER FOR THE WEEK ENDING JANUARY 19, 1953

On the 15th and 16th the weather in the Great Plains and Mississippi Valley was featured by a severe cold wave that was preceded by locally heavy rains and thunderstorms from Kansas to Minnesota and Wisconsin accompanied by glaze, high winds and snow followed by the lowest temperatures thus far this winter in northern sections. During a blizzard on the 15th in Iowa, eastern South Dakota and parts of neighboring states, 2 to 7 inches of drifting snow blocked many roads and forced some rural schools to close. Heavy glaze on the same date caused considerable damage to power and communication lines in western and northern Iowa and southern Minnesota. On the morning of the 16th, minimum temperatures fell to sub zero level as far south as southeastern Colorado, northern Kansas and central Missouri. Lowest reported temperatures in a few of north central states are as follows:

On the 15th at Mellette, South Dakota -30 degrees; on the 16th Clarkson, Nebraska -21 degrees; Orr, Minnesota -41 degrees and Danbury, Wisconsin -36 degrees. On the morning of the 17th below freezing temperatures were recorded throughout Texas except in the lower coastal areas. As the cold weather moved eastward on the 17th and 18th temperatures did not fall to unusually low levels, but freezing rain, sleet, and some snow in the Lakes Region, Ohio Valley, the Middle Atlantic and New England States caused hazardous driving conditions. Due to the cold wave, temperatures for the week averaged slightly below normal in Nebraska and the Dakotas, but were above normal elsewhere with the average plus

departures ranging up to 20 degrees in the northwest and 14 degrees in the northeast. The entire week was mild in the far west and also along the Atlantic Coast after a freeze on the first day that extended to northern Florida. Precipitation (water) for the week totaled over an inch along the north Pacific Coast, in a few inland localities of the northwest, and the Ohio Valley, over one-half inch in the northeast, and generally under one-fourth inch in the Great Plains, Florida, and the southwest. Heaviest rains fell along the north Pacific Coast from the 15th through 18th. In northern interior areas frequent light to occasionally heavy snows occurred. The warm weather removed nearly all of the snow cover in the northeast and northwest except in the mountains, but a substantial cover still remains in the north central interior extending as far south as Nebraska and Iowa. (Sum. Sup. by U. S. Weather Bur.)

CEREAL AND FORAGE INSECTS

EUPINE MAGGOT (Hylemya lupini)-GEORGIA - Light damage to terminal buds of lupine by mature larvae in small planting in Tift County, January 7. (L. W. Morgan).

LYGUS BUGS (Lygus spp.) - CALIFORNIA - Populations high for this time of year on alfalfa and weeds (Chenopodium spp.) in Orange County. In 400 sweeps of an insect net number of bugs collected varied from 0.1 to 11. On alfalfa about equal numbers of L. hesperus and L. elisus were collected, but L. elisus predominated on Chenopodium. (R. E. Campbell).

Insect Situation on Forage Crops-Belle Glade, Florida Area: Populations of YELLOW SUGARCANE APHID (Sipha flava) are generally much lower in Everglades pangola grass pastures than a few weeks ago, due mainly to frosts which injured this variety of grass very severely. Populations of GREEN BUG (Toxoptera graminum) on both oats for grazing and on pangola grass have been attacked very extensively by Hymenopterous parasites. Parasites have not been observed attacking Sipha flava in the area. Principle predators of aphids on pasture grasses in the Everglades are lady beetles, Cycloneda sanguinea, immaculata and Scymnus sp. Syrphid fly larvae also are often present in these aphid colonies in considerable numbers. (W. G. Genung)

TRUCK CROP INSECTS

APHIDS (Aphidae) - GEORGIA - TURNIP APHID (Rhopalosiphum pseudobrassicae) moderate infestation on 15 acres of turnips and collards in Cook County, January 8. (L. W. Morgan). FLORIDA-CABBAGE APHID (Brevicoryne brassicae) abundant in Southern area except where insecticides used. (D. O. Wolfenbarger). Mixed infestations of cabbage aphid and GREEN PEACH APHID (Myzus persicae) occur in light to fairly severe infestations on cabbage in the Everglades. Green

peach aphid is very abundant on Polygonum sp. near Okeelanta, South Bay, and Belle Glade. APHIDS beginning to infest potatoes in Southern area. (D. O. Wolfenbarger). Spotted but heavy infestations of undetermined aphid on lettuce in Gadsden County area. Control measures being applied. (L. M. May). CALIFORNIA - Cabbage aphid abundant in cabbage fields in Orange County. (R. E. Campbell).

SERPENTINE LEAF MINER (Liriomyza pusilla) - FLORIDA - Population at a low level on tomatoes in southern Florida. Present but not abundant on potatoes. (D. O. Wolfenbarger).

CABBAGE LOOPER (Trichoplusia ni)-CALIFORNIA-Abundant in cabbage fields in Orange County. (R. E. Campbell).

SEED-CORN MAGGOT (Hylemya cilicrura)-CALIFORNIA-Attacking spinach in Orange County in several fields. One or more maggots found in terminal buds of most plants. (R. E. Campbell).

WIREWORMS (Elateridae) - FLORIDA - Less abundant on potatoes in southern Florida than for several years. (D. O. Wolfenbarger).

COTTON INSECTS

Hibernating Boll Weevil Survey: ARKANSAS-One hundred-twelve samples taken in Phillips, Lee, Crittenden Counties in eastern Arkansas showed an average of 518.6 live weevils per acre. Five samples in Green County, northeastern Arkansas, showed average of 484 live weevils per acre. (G. Barnes).

INSECTS AFFECTING ORNAMENTALS

SADDLEBACK CATERPILLAR (Sibine stimulea)-FLORIDA-Causing considerable injury to ixora, hibiscus and other ornamentals on several properties in Lake Worth. (W. G. Genung).

FOREST INSECTS

A SAWFLY (Neodiprion sp.) Larvae of undetermined species have been feeding on pine trees in several places in Jackson County. (M. M. Price).

SUMMARY OF INSECT CONDITIONS - 1952

MONTANA

Reported J. P. Corkins

Cereal and Forage Insects: GRASSHOPPERS (Acrididae) - This was a relatively low grasshopper year. A few scattered light to moderate infestations of range and crop hoppers occurred. Most of these infestations were localized in nature. Populations of Melanoplus mexicanus and Metator paradalinus, Aulocara ellioti and Drepanopterna femoratum appeared to be below those of the previous three or four years. Melanoplus bruneri, Camnula pellucida and Chorthippus longicornis seemed to be present in increased numbers as compared with the previous three to four years. An infestation of Bruneria brunera occurred in the Dryhead area of Big Horn and Carbon Counties. An infestation of Asemoplus montanus occurred at approximately 6,000 feet on Forest preserve in southern Ravalli County and appeared to be feeding on Stipa comata, Poa pratensis and Bromus sp. Three light to moderate MORMON CRICKET (Anabrus simplex) infestations were found on and along the Big Horn Mountains in Big Horn and Carbon Counties in 1952. Several gregarious bands of Mormon crickets were reported in the upper Blackfoot River valley in the general area around Ovando, Helmville, and Lincoln in 1952. Unfortunately, these reports were received late, and the area was not surveyed early enough in the season to provide proper diagnosis of the situation. Small localized infestations of ARMY CUTWORM (Chorizagrotis auxiliaris) occurred in Toole, Pondera, Hill, Cascade, and Yellowstone counties. Damaging infestations of RED-BACKED CUTWORM (Euxoa ochrogaster) were reported in an alfalfa field in Prairie County, an alfalfa field in Mineral County, and a grain field in Glacier County. Reports of severe damage to small grains by WIREWORMS (Elateridae), in winter wheat in particular, were received from nearly all counties in the State during the reporting period. In addition, a few reports of damage to potatoes in the northcentral and western areas of the State.

Occasional cases of FIELD CRICKET (Acheta assimilis) damaging alfalfa seed in the shock occurred in north-eastern Montana. Seriously damaged winter wheat on four farms in Big Horn County during early spring. SPITTLEBUGS (Cercopidae) became quite prevalent over

much of Montana west of the continental divide. For the most part, activities were confined to weeds; however, occasionally, gardens were invaded with some damage resulting. Also observed to be present in alfalfa fields, but no damage to field crops reported. Several spring and winter wheat fields received severe marginal damage from CRESTED WHEAT PLANT BUG (Labops hesperius) which had moved from adjacent crested wheatgrass fields in a few scattered areas throughout Montana. Extremely severe damage to crested wheatgrass plantings occurred in Ravalli, Missoula, and Cascade Counties. In some cases the damage was so severe that when accompanied by grazing it resulted in plantings being killed. In 1951 WESTERN WHEAT APHID (Brachycolus tritici) was reported only in southern Broadwater County. Most farmers worked summer fallow to keep it free from volunteer wheat, barley, and grasses. This practice prevented over-wintering aphid colonies from becoming established in the fields and resulted in only spotted light infestations in this area in 1952. Spotted infestations were reported in southwestern Chouteau County and eastern Richland County.

Alarming numbers of ENGLISH GRAIN APHIDS (Macrosiphum granarium) appeared in Daniels, Sheridan, and northern Valley Counties following a cool wet period in late July, however, hot dry weather in early August together with lady beetles rapidly reduced the population below the economic level. WHEAT STEM SAWFLY (Cephus cinctus) - The 1951 survey indicated that severe infestations occurred in Teton, Pondera, Glacier, Toole, Lincoln, Chouteau, Cascade, and Daniels Counties, with lesser infestations in most of the other major wheat growing counties east of the continental divide. At this time (January 1953) the 1952 sawfly survey has not been completed; however, it does appear that in general the sawfly infestation was similar to that of 1951. Scattered infestations of WHEAT STEM MAGGOT (Meromyza americana) occurred in Sweetgrass, Stillwater, Phillips, Daniels, Toole, Sheridan, Richland, McCone, Dawson, Wibaux and Custer Counties. In all cases less than 5 percent of the plants were infested with the average infestations of from 1 to 2 percent. WHEAT JOINTWORM (Harmolita tritici) was prevalent in northern Sweetgrass and Stillwater Counties where it inflicted severe damage. Also occurred in Phillips and Daniels Counties. Numerous infestations of a WHEAT HEAD ARMYWORM (Faronta sp.) occurred in Chouteau, Cascade, and Fergus Counties, during late July, and early August. This insect was feeding on the mature, or near mature, wheat kernels. In all cases observed the insects were not prevalent enough to cause damage of economic importance.

Extensive infestations of a WHEAT LEAF SAWFLY (Tenthredinidae) were found in Broadwater County during June, largely on winter wheat, although the wheat was far enough advanced so that damage was not of economic importance. EUROPEAN CORN BORER (Pyrausta nubilalis) - A survey revealed very light infestations in irrigated corn in Prairie, Dawson, and Richland Counties. No borer infestations were found in dryland corn. To date the borer has not been found in alarming numbers. In late July numerous moderate to severe infestations of CORN EARWORM (Heliothis armigera) were found on irrigated field and garden corn in the southeastern, southcentral, and western parts of the state. Very light and widely scattered infestations of CLOVER SEED CHALID (Bruchophagus gibbus) occurred over most of the alfalfa seed producing areas in the State. No extremely severe infestations are known to have occurred. ALFALFA WEEVIL (Hypera postica) - All, or parts of, Madison, Park, Sweetgrass, Stillwater, Carbon, Golden Valley, Fergus, Phillips, Petroleum, Garfield, Musselshell, Yellowstone, Big Horn, Treasure, Rosebud, Powder River, Custer, and Prairie Counties are now known to be infested with economic populations of alfalfa weevils. During the past two years, this pest has consistently caused more damage to alfalfa than any other insect and has been one of the more important economic insect pests to Montana agriculture. In 1952, consistently higher populations and more than average damage was noted. For the first time in 1952 it was evident that extremely high populations of adults caused damage to the alfalfa largely through egg-laying activities. All alfalfa seed areas observed had economic infestations of LYGUS BUGS (Lygus spp.) during mid and late summer. Populations in southeastern Montana appeared to be unusually high. In the spring of 1952 severe defoliation by adult SWEETCLOVER WEEVILS (Sitona cylindricollis) was evident in nearly all parts of the State, and a few cases of marginal damage to alfalfa occurred. Economic populations of CLOVER APHID (Anuraphis bakeri) were present in most seed clover fields of western Montana. In addition an infestation was reported in a seed clover field in Yellowstone county.

LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris) continued to be present in economic numbers in the seed clover fields of western Montana. Also found in some irrigated pastures in Big Horn and Yellowstone Counties where it caused severe defoliation to the clover and greatly reduced the food value of the infested pastures.

Garden and Truck Crop Insects: Scattered moderate to heavy infestations of COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) occurred in most of the potato growing areas of the State. Several infestations of SUGAR-BEET ROOT MAGGOT (*Eurycophalomyia myopaeformis*) were reported in Richland County and in western Montana. Only one infestation of BEET WEBWORM (*Loxostege sticticalis*) was reported or observed. This was a moderate infestation on sugar beets in Prairie County in late August. Light to moderate infestations of SPINACH LEAF MINER (*Pegomya hyoscyami*) occurred on sugar beets in Yellowstone County during June. CABBAGE MAGGOT (*Hylemya brassicae*) appeared to be common throughout the entire State. IMPORTED CABBAGEWORM (*Pieris rapae*) occurred over most of the State causing damage particularly in many western Montana gardens. ASPARAGUS BEETLE (*Crioceris asparagi*) caused economic damage to asparagus plantings in western Montana, particularly in Ravalli and Lake Counties. FLEA BEETLES (*Epitrix* sp. and *Systema* sp.) - Severe damage to seedling sugar beets occurred in Richland County with less severe damage occurring in Blaine, Prairie, Rosebud, and Carbon Counties. Unusually large populations of banded flea beetles occurred during June and early July in many alfalfa fields of southcentral and southeastern Montana. Numerous cases of the flea beetles' causing serious defoliation were observed. In early June many large flights of PAINTED-LADY (*Vanessa cardui*) were observed over various parts of the western three-quarters of Montana. By late June, caterpillars were abundant in many localities. Larval feeding was largely confined to various species of thistles; however, reports were received of severe damage to beans, potatoes, clover, corn, cabbage, and hollyhocks. EUROPEAN EARWIG (*Forficula auricularia*) is now common in all of Montana west of the continental divide and in the southwestern portion of Montana east of the continental divide. Unusually severe populations occurred in the late summer in many homes and gardens of northwestern Montana.

Pests Destructive to Fruit Crops: A survey to determine the incidence of BLACK CHERRY FRUIT FLY (*Rhagoletis fausta*) in bitter cherry, a native wild cherry, was conducted. Individual counts of 5,916 fruits were made with negative results. Light to moderate infestations of PEAR-SLUG (*Caliroa cerasi*) were found in many commercial and home orchards throughout western Montana. Moderate to severe infestations of BLACK CHERRY APHID (*Myzus cerasi*) occurred in the sweet and sour cherry growing areas of Ravalli and Lake Counties. CODLING MOTH (*Carpocapsa pomonella*) infestations were normal in orchards and back-

yard plantings where preventative control measures were not practiced. APPLE APHID (Aphis pomi) infestations were generally moderate to severe in apple orchards throughout most of western Montana. Several reports of WOOLLY ELM APHID (Eriosoma americanum) infestations in western Montana orchards were received. Infestations of PEAR LEAF BLISTER MITE (Eriophyes pyri) were reported in Gallatin, Ravalli, Missoula, and Mineral Counties. CURRANT FRUIT FLY (Epochra canadensis), which is widely distributed throughout the State, was reported only in Gallatin, Missoula, Roosevelt, and Garfield Counties during 1952. Infestations of WESTERN RASPBERRY FRUIT-WORM (Byturus bakeri) were reported in Missoula County.

Pests of Forest Trees and Ornamentals: Moderate to severe infestations of ASH BORER (Podosesia syringae iraxini) were found in Sheridan and Richland Counties. GREEN ASH APHID (Prociphilus venafuscus) infestations occurred in Ravalli County. Numerous reports and inquiries were received regarding WILLOW LEAF GALL (Pontania sp.). Infestations of POPLAR VAGABOND APHID (Mordwilkoja vagabunda) were reported in Pondera and Glacier Counties. Many moderate to severe infestations of SPIDER MITES (Acarina) occurred on raspberries, mountain ash, coniferous trees, and other ornamentals over most of the State. Infestations of A TENT CATERPILLAR (Malacosoma sp.) were light to moderate over much of western and southcentral Montana with the principal damage to apple trees and roses. OYSTER SHELL SCALE (Lepidosaphes ulmi) was extremely prevalent on Cotoneaster shrubs in eastern Montana. Several cases of severe damage by COTTONWOOD LEAF MINER (Proleucoptera albella) were reported from the north-central section of the State. A LEAF ROLLER (Archips sp.) caused extensive damage to Russianolives, caragana, and apples in north-central and northwestern Montana during June. COOLEY SPRUCE GALL APHID (Chermes cooley) was observed over most of the State. PINE NEEDLE SCALE (Phenacaspis pinifoliae) infestations were reported in Yellowstone, Beaverhead, Silver Bow, Carbon, Ravalli, and Gallatin Counties. Observations indicate that this pest is far more prevalent.

Insects Affecting Man and Animals: CLOVER MITES (Bryobia praetiosa) continued to represent a perennial household pest throughout most of the State. FLIES (Muscidae) - There is more evidence, though not conclusive, that resistant strains of flies are occurring in Montana. Reports of resistant flies have been received from commercial exterminating companies. Some of these have been checked and at least in some cases

poor control is the result of normal late season influxes of fly population. This was particularly evident in 1952 when a comparatively long warm fall season was experienced. CATTLE GRUBS (*Hypoderma lineatum* and *H. bovis*) continued to be important economic pests of cattle. CATTLE LICE continued to be one of the more serious insect pest problems of cattle during the reporting period. SHORT-NOSED CATTLE LOUSE (*Haematopinus eurysternus*), and LONG-NOSED CATTLE LOUSE (*Linognathus vituli*) and CATTLE BITING LOUSE (*Bovicola bovis*) are the only species known to be present in Montana. SHEEP-TICK (*Meio-
phagus ovinus*) was common in all of the sheep raising areas of the State. The incidence of HORN FLIES (*Siphona irritans*) appeared to be about normal except that the horn fly season was somewhat longer than normal due to an abnormally warm fall period.

Recent Important Interceptions at Ports of Entry

Living insects intercepted recently in ships' stores from foreign countries included the following:

Larvae and pupae of *Gnorimoschema* nr. or *o*cellata Boyd on the leaves and in the roots of beets from Egypt, France, and Italy at Philadelphia on December 7, 18, and 19 (J. Freedland, R. Kennelty). This insect and two related species, *G. triplicella* and *G. instabiella*, have been reported injurious to beets in Europe and Africa, the larvae mining the leaves and boring in the roots (M. H. Sartor). Larvae identified as *Euscepes* prob. *postfasciatus* (Fairm.), the so-called West Indian sweet-potato weevil in sweetpotatoes from Peru at Galveston on December 11 (M. S. Mirimanian, R. L. Trigg). This destructive pest of the sweet-potato is known to occur in parts of Central and South America, the West Indies, Hawaii, and New Zealand (M. H. Sartor). Larvae of *Epicaerus* sp. in potatoes from Mexico at Mobile on December 1 (S. R. Morris) and at Galveston on December 6 (R. L. Trigg). One member of this genus, *E. cognatus* Sharp, the so-called Mexican potato weevil, is a serious pest of potatoes in that country. Larvae of *Ceutorhynchus* sp. in turnips from Belgium at Philadelphia on December 7 (J. Freedland). Several species in this genus of weevils have been reported attacking crucifers in Europe, with the one usually associated with turnip, *C. pleurostigma* Mshl., an important pest. Larvae of *Psylliodes* sp. in turnips from England at Mobile on December 15 (V. E. Hayes). One species in this genus, *P. chrysocephala* (L.), is a common pest of cruciferous crops in Europe. It has recently been collected in North America for the first time on rape at Topsail, Newfoundland (C. G. McNay - C. E. I. R., v. 2, n. 35, p. 457. Complete determinations were impossible on these intercepted larvae, but origins and host-relations imply important pests, unknown in U. S.

SURVEY METHODS

STORED GRAIN INSECTS

Farm-type bins. For farm-type bins up to 5,000 bushels, samples should be taken with the standard 5-foot grain probe from 5 locations: the center, and about 1 foot from the wall at the 4 cardinal points of the bin. For shallow bins, one probe from each location is sufficient. If the grain is deeper, from 2 to 3 probes must be taken from each location using extensions on the probe so that samples can be taken from a vertical column from the surface to the bottom of the bin; e.g., if the grain is 10 feet deep a sample from the top and bottom 5 feet is sufficient, but if the grain is 15 feet deep it will be necessary to take samples from the bottom, middle, and top five feet of grain. It should be noted that in the sampling of round metal bins it may be difficult to take the samples from the 4 quadrants when the bin is over-filled. In such cases the probes should be inserted in a slanting position so that the bottom samples will be taken from the outside portion of the bins.

Quonset huts. In the sampling of quonset huts or large, rectangular wooden bins additional samples are necessary, the number depending upon the size of the building and the depth of the grain. For the average quonset 100' x 40', samples are taken at 12 locations approximately 15 feet apart in two longitudinal rows evenly spaced between the two side walls. If the grain is approximately 10 feet deep, samples should be taken from the top and bottom 5 feet at each location. In addition a surface sample should be taken from the center of the front and rear half of the quonset.

Elevator bins. The sampling of grain in elevator bins is complicated by the depth of the grain and the difficulty of reaching the surface of the grain from the head house floor. Unless special equipment is available to take probe samples from the top of the bin, or the elevator is equipped with an automatic sampler, the simplest method is to run the entire bin and take samples periodically from the grain stream with a "pelican" sampler. This method takes considerable time and is not always feasible. Since infestation in elevator bins is most frequently found in the grain at the surface and the bottom of bins, the following method has been adopted for routine examinations. A surface sample is taken from each

bin by lowering an automatic sampling device on a rope to the grain level from the top of each bin. This device consists of a cylindrical container, the two halves of which are held open by springs. On contact with the grain, the two halves snap shut and capture approximately a gallon of grain. A sample from the bottom of the bin is obtained by running the bin for 1 or 2 minutes during which period 5 passes are made through the falling grain stream with a pelican grain sampler.

Composite sample. All probe samples for any one bin, quonset or elevator bin, are combined into a composite lot which is then cut down to a 1000-gram sample with a Boerner Grain Divider. The sample can be then sifted and the insects counted. The insects are classified as weevils or bran beetles. Rice weevil, granary weevil, and lesser grain borer are classed as weevils and all other beetles as bran beetles. (Stored Product Insect Investigations, Manhattan, Kansas, station)

SUGARCANE BORER (*Diatrea saccharalis*)

Determining Infestation at Time of Harvest

Method Used in Louisiana: Surveys to determine sugarcane borer infestations in Louisiana are made at time of harvest each year. Examinations are made on 10 plantations, each being representative of a surrounding area producing one-tenth of the sugar yield for the state. Six fields in representative locations on the plantation and divided among varieties and soil types in proportion to their acreage importance in the district represented by the plantation are surveyed. Each field infestation average is given equal weight in determining the plantation average, and each plantation average is given equal weight in determining the infestation average for the state. Examinations are made between October 20 and December 15. Infestation counts consist of the percentage of joints bored as determined from the total number of joints and total bored joints on 100 stalks in each field. Ten samples of 10 consecutive stalks each are examined in 10 locations of each field. Five of the samples are taken on two adjoining rows running lengthwise and one-third of the distance in from one side of the field. The samples are alternated between the two rows and spaced equidistant apart for the entire length of the field. The other five samples are similarly taken one-third of the distance in from the other side of the field. If up to 10 percent of the joints are bored infestation is considered to be very light; 10 to 20, light; 20 to 30, moderate; and over 30, very severe. The

percentage of crop loss for each 1 percent joints bored is conservatively estimated to be three-fourths of 1 percent.

Method Used in Florida: Surveys to determine sugarcane borer infestations in Florida are made, also, at time of harvest each year. Examinations are made in approximately 40 representative fields of sugarcane well distributed over the sugar producing area. Individual fields are sampled by counting the total number of joints and externally apparent bored joints of 10 consecutive stalks in each of 5 locations. The samples are taken about 100 feet apart in the central one-third section of the field. Up to 5 percent of the joints bored is considered to be a light infestation; 5 to 10 moderate; and over 10 heavy. The percentage of crop loss for each 1 percent joints bored is conservatively estimated to be 1 percent. In Florida the average infestation is less and the loss per unit of infestation is more than it is in Louisiana.

Determining Number of Overwintering Sugarcane Borers

Surveys to determine the number of overwintering sugarcane borers in Louisiana are made during February to obtain an estimate of the probable infestation and control needs during the coming spring and summer. Examinations are made on 10 plantations evenly distributed over that section of the sugar producing area in which the borer is most likely to cause serious damage. Three representative fields are examined on each plantation. Although most examinations are made in the cane trash of ratoon fields which make up most of the acreage, some are also made in the young shoots from summer-planted and fall-planted cane. Ten random samples of 10 linear feet of row each are examined in each field for overwintering borers. These counts are then converted into number of overwintering borers per acre. In cane trash 0 to 5 are considered to be non-economic, 5 to 25 light, 25 to 100 moderate, 100 to 200 severe, and 200 or more very severe. In young shoots of summer-planted cane 0 to 50 are considered to be non-economic, 50 to 100 light, 100 to 600 moderate, 600 to 2,000 severe, and 2,000 or more very severe.

(R. Mathes)

